COLSF 7.4 V2

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101 YESLER WAY, SEATTLE, WASHINGTON, 98104, TEL. 206/624-9537

International Specialists in the Environment

MEMORANDUM

DATE: June 3, 1991

FOR: Neil Thompson, HWD-PO, USEPA, Region 10

THRU: Alexander Whitman, Program Manager, E & E, Seattle

FROM: David A. Ikeda, Chemist, E & E, Seattle
Lila Transue, Senior Chemist, E & E, Seattle

SUBJ: Data Validation Summary Check
Colbert Landfill

REF: Contract Number 68-W9-0020
Work Assignment No. 20-05-0P15

CC: Barry Towns, Quality Assurance Officer, USEPA, Region 10
Carolyn Wilson, RSCC, USEPA, Region 10
Gerald Muth, CLP-TPO, USEPA, Region 10 Laboratory, Manchester
Lyle Diediker, Project Manager, E & E, Seattle

Comparison of the data validation summary for five water samples with the corresponding FORM I's has been completed. The samples were numbered:

91122000
91122001
91122002
91122003
91122004

No discrepancies were noted.

DI:rls

Attachment

ZR6030.10.0

ENVIRONMENTAL SERVICES ASSISTANCE TEAM - ZONE II

ICF Technology Incorporated

NSI Technology Services Corporation

The Bionetics Corporation

ESAT Region X
The Bionetics Corporation
7411 Beach Drive East
Port Orchard, WA 98366
(206) 871-0748

MEMORANDUM

DATE: April 26, 1991

TO: Neil Thompson, Project Officer, USEPA, Region 10

FROM: Gerald H. Dodo, Senior Chemist, ESAT, Region 10

THROUGH: Joe Blazevich, Chief, GC/MS Section, USEPA, Region 10
Bill Scheidler, ESAT Team Manager, ESAT, USEPA, Region 10

SUBJECT: Report of GC/MS Data Validation for Colbert Landfill VOA Analyses

TID Number: 10-1901-536

Document No: ESAT-10A-291

CC: Carolyn Wilson, RSCC, USEPA, Region 10
Gerald Muth, DPO, USEPA, Region 10
Bruce Woods, Chemist, USEPA, Region 10
Bob Melton, Chemist, USEPA, Region 10

The following is a QA data review of the VOA analyses of five water samples collected at the Colbert Landfill site and performed at the Manchester Laboratory. This review covers the following samples:

91122000
91122001
91122002
91122003
91122004

The project code for these samples is TEC-512C and the account number is TFA10PU01.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control specifications outlined in the "CLP Statement of Work, Organic Analysis, revision 2/88".

I. Holding Times: Acceptable.

All water samples were analyzed within 14 days of the sampling date which is within 40 CFR 136 holding time limit for preserved waters. In no case did the "Chain of Custody" sheets indicate the presence or absence of preservatives. It was therefore assumed that the samples were collected according to Region 10 policy and preserved at the time of collection.

II. GC/MS Tuning and Performance: Acceptable.

All sample analyses were preceded by a bromofluorobenzene tune less than 12 hours prior to the analysis. All tuning summaries agreed with the raw data and in each case the bromofluorobenzene ion abundances met the appropriate criteria.

III. Initial Calibration: Acceptable.

An initial calibration was performed on 4/01/91. All target compounds displayed relative response factors (RRF) that exceeded the minimum acceptable level of 0.05 and % RSD's were within the acceptable limit of 30 %.

IV. Continuing Calibration: Acceptable.

A continuing calibration was performed each day of the analysis as specified in the SOW. All targets displayed RRFs above the acceptable level of 0.050 in all continuing calibrations. No restriction was placed on the data based on %D criteria.

No additional qualifiers were required based on the continuing calibrations.

V. Blanks:

A blank accompanied each analysis day. Target compounds found in the blanks are summarized in tabular form below. None of these targets were reported in any of the associated samples unless the sample concentration for the analyte exceeded that in the blank by more than five-fold for most targets and ten-fold for common laboratory contaminants.

Target Compound	A91BW1092 (UG/L)	A91BW1093 (UG/L)
Chloromethane	0.06	
Dichlorodifluoromethane	0.02	
Methylene Chloride	3	1
Acetone	2	
Carbon Disulfide	0.01	
2-Butanone	0.5	
Toluene	0.02	0.06
1,2,4-Trichlorobenzene	0.08	

VI. Surrogates: Acceptable.

All percent recoveries of the surrogates set forth in Form II of the SOW were met. No qualifiers were placed on any results based on surrogate recoveries.

VII. Matrix Spike/ Matrix Spike Duplicate:

A Matrix Spike/ Matrix Spike Duplicate were run on one of the samples. All percent recovery and relative percent difference criteria set forth in Form III of the SOW for water samples were met except for toluene in the matrix spike duplicate. The recovery for toluene from the matrix spike duplicate analysis is 74 % however the criterion stated in Form III of the SOW is a 76 % minimum recovery. No data restrictions were placed on the data based solely on MS/MSD results.

VIII. Internal Standards Performance: Acceptable

The retention time of all internal standards were within 30 seconds of the continuing calibration standards. All internal standards displayed area counts that fell within the specified range of 50 % to 200 % of the associated daily calibration. No restrictions were placed on the data based on internal standard results.

IX. TCL Compound Identification: Acceptable.

All TCL compounds displayed relative retention times that were within 0.06 units of the related standard in the continuing calibration. All criteria were met for mass spectral ion matching and ion abundance matching. No additional qualifiers were needed on the basis of compound identification.

X. Compound Quantitation: Acceptable.

Compound quantitation was evaluated correctly. The appropriate internal standards were used. The correct quantitation ions and relative response factors were used. No additional qualifiers were needed on the basis of compound quantitation.

XI. Tentatively Identified Compounds: Acceptable.

The spectra for all tentatively identified compounds met criteria for ion matching and ion abundance matching.

XII. Overall Assessment for the Case.

The usefulness of the data is based on the criteria outlined in the "Laboratory Data Validation Function Guidelines for Evaluating Organics Analyses" (2/1988).

All of the requirements for data qualifiers from the preceding sections (I - XI) were accumulated. Each sample data summary sheet and each compound was checked for positive or negative results. From this, the overall need for data qualifiers for each analysis was determined. In cases where more than one of the preceding sections required data qualifiers, the most restrictive qualifier has been added to the data.

In general, all unqualified data can be used without restriction. The usefulness of qualified data should be treated according to the severity of the qualifier. Each qualifier has been defined below. Should question arise regarding the qualification of data and its relation to the usefulness, the reader is encouraged to contact the Region 10 laboratory, or the data reviewer.

DATA QUALIFIERS

U - The analyte was analyzed for but not detected at or above the reported value.

J - The analyte was analyzed for, and positively identified. The associated numerical value is an estimate only.

Rej - The data are unusable for all purposes. The analyte was analyzed for, but the presence of the analyte has not been verified.

N - There is presumptive evidence the compound is present in this sample.

NJ - There is presumptive evidence that the analyte is present. The associated numerical value is an estimate.

UJ - The analyte was analyzed for but not detected at or above the reported estimated value.

NAR - No analytical result.

EXP - The value is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.

* - The analyte was present in the sample. (Visual Aid to locate detected compound on report sheet).

EPA Region X Lab Management System
Sample/Project Analysis Results

Project: TEC-512C COLBERT LANDFILL Officer: NET Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122000 Description: EFFLUENT 1 Source: Well (Test/Observation)

Begin Date: 91/03/20 09:45

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	1U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	3U	ug/l
Carbon Disulfide	1U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	1U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	1U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Trichloroethene	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
DBCP	1U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
BENZENE, ETHYL-	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	98	% Recov
Surrog: 1-Bromo-2-Fluo+	103	% Recov
d8-Toluene	103	% Recov
d4-1,2-Dichloroethane	100	% Recov

Tent Ident - VOA Sca	Water-Total Result	Units
UNKNOWNS (TOTAL)	0.25NJ*	ug/l

1
5/22/91

(Sample Complete)

Project: TEC-512C COLBERT LANDFILL Officer: NET Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122001 Description: EFFLUENT 2 Source: Well (Test/Observation)

Begin Date: 91/03/20 09:45

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	1U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	3U	ug/l
Carbon Disulfide	1U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	1U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	1U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Trichloroethene	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
DBCP	1U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
BENZENE, ETHYL-	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	93	% Recov
Surrog: 1-Bromo-2-Fluo+	100	% Recov
d8-Toluene	99	% Recov
d4-1,2-Dichloroethane	94	% Recov

5/22/91

(Sample Complete)

Project: TEC-512C COLBERT LANDFILL Officer: NET Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122002 Description: EFFLUENT 3 Source: Well (Test/Observation)

Begin Date: 91/03/20 09:45

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	1U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	3U	ug/l
Carbon Disulfide	1U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	1U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	1U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Trichloroethene	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
DBCP	1U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
BENZENE, ETHYL-	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	94	% Recov
Surrog: 1-Bromo-2-Fluo+	103	% Recov
d8-Toluene	100	% Recov
d4-1,2-Dichloroethane	95	% Recov

5/22/91

(Sample Complete)

Project: TEC-512C COLBERT LANDFILL Officer: NET Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122003 Description: EFFLUENT 4 Source: Well (Test/Observation)

Begin Date: 91/03/20 08:30

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	13U	ug/l
Chloroform	1U	ug/l
Benzene	1U	ug/l
1,1,1-Trichloroethane	1U	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	1U	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	1U	ug/l
Carbon Disulfide	1U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	1U	ug/l
1,1-Dichloroethene	1U	ug/l
Trichlorofluoromethane	1U	ug/l
Methane, Dichlorodiflu+	1U	ug/l
1,2-Dichloropropane	1U	ug/l
2-Butanone	15 *	ug/l
1,1,2-Trichloroethane	1U	ug/l
Trichloroethene	1U	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
DBCP	1U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
BENZENE, ETHYL-	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	1U	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	1U	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	95	% Recov
Surrog: 1-Bromo-2-Fluo+	106	% Recov
d8-Toluene	97	% Recov
d4-1,2-Dichloroethane	95	% Recov

VOA - PP Scan (GCMS) Matrix Spike #1	Water-Total Result	Units
Carbon Tetrachloride	101	% Recov
Acetone	NAR	% Recov
Chloroform	84	% Recov
Benzene	92	% Recov
1,1,1-Trichloroethane	102	% Recov
Bromomethane	95	% Recov
Chloromethane	105	% Recov
Dibromomethane	83	% Recov
Bromochloromethane	92	% Recov
Chloroethane	111	% Recov
Vinyl Chloride	104	% Recov
Methylene Chloride	110	% Recov
Carbon Disulfide	104	% Recov
Bromoform	84	% Recov
Bromodichloromethane	85	% Recov
1,1-Dichloroethane	68	% Recov
1,1-Dichloroethene	111	% Recov

VOA - PP Scan (GCMS) *** Continued *** Matrix Spike #1	Water-Total Result	Units
Trichlorofluoromethane	127	% Recov
Methane, Dichlorodiflu+	145	% Recov
1,2-Dichloropropane	92	% Recov
2-Butanone	NAR	% Recov
1,1,2-Trichloroethane	83	% Recov
Trichloroethene	100	% Recov
ETHANE, 1,1,2,2-TETRAC+	71	% Recov
1,2,3-Trichlorobenzene	68	% Recov
Hexachlorobutadiene	93	% Recov
Naphthalene	47	% Recov
2-Chlorotoluene	81	% Recov
1,2-Dichlorobenzene	70	% Recov
1,2,4-Trimethylbenzene	82	% Recov
DBCP	82	% Recov
1,2,3-Trichloropropane	76	% Recov
Tert-Butylbenzene	84	% Recov
Isopropylbenzene (Cume+	70	% Recov
p-Isopropyltoluene	84	% Recov
BENZENE, ETHYL-	73	% Recov
BENZENE, ETHENYL-(STYR+	74	% Recov
BENZENE, PROPYL-	80	% Recov
Butylbenzene	70	% Recov
4-Chlorotoluene	72	% Recov
1,4-Dichlorobenzene	65	% Recov
1,2-Dibromoethane (EDB)	84	% Recov
1,2-Dichloroethane	87	% Recov
4-Methyl-2-Pentanone	77	% Recov
1,3,5-Trimethylbenzene	75	% Recov
Bromobenzene	79	% Recov
Toluene	81	% Recov
Chlorobenzene	82	% Recov
1,2,4-Trichlorobenzene	66	% Recov
Dibromochloromethane	85	% Recov
Tetrachloroethene	92	% Recov
Sec-Butylbenzene	75	% Recov
1,3-Dichloropropane	84	% Recov
Cis-1,2-Dichloroethene	86	% Recov
trans-1,2-Dichloroethe+	97	% Recov
1,3-Dichlorobenzene	76	% Recov
1,1-Dichloropropene	94	% Recov
2,2-Dichloropropane	92	% Recov
2-Hexanone	76	% Recov
Ethane, 1,1,1,2-Tetrac+	80	% Recov
Total Xylenes	74	% Recov

(Continued on next page)

6/22/9.

Project: TEC-512C COLBERT LANDFILL Officer: NET Account: FA10PU01

Laboratory: EPA, Manchester

Sample No: 91 122004 Description: EFFLUENT 5 Source: Well (Test/Observation)

Begin Date: 91/03/20 11:05

VOA - PP Scan (GCMS)	Water-Total Result	Units
Carbon Tetrachloride	1U	ug/l
Acetone	1U	ug/l
Chloroform	2 *	ug/l
Benzene	0.6J*	ug/l
1,1,1-Trichloroethane	270 *	ug/l
Bromomethane	1U	ug/l
Chloromethane	1U	ug/l
Dibromomethane	1U	ug/l
Bromochloromethane	1U	ug/l
Chloroethane	0.8J*	ug/l
Vinyl Chloride	1U	ug/l
Methylene Chloride	520 *	ug/l
Carbon Disulfide	1U	ug/l
Bromoform	1U	ug/l
Bromodichloromethane	1U	ug/l
1,1-Dichloroethane	12 *	ug/l
1,1-Dichloroethene	25 *	ug/l
Trichlorofluoromethane	1 *	ug/l
Methane, Dichlorodiflu+	1U	ug/l
1,2-Dichloropropane	0.8J*	ug/l
2-Butanone	1U	ug/l
1,1,2-Trichloroethane	1U	ug/l
Trichloroethene	15 *	ug/l
ETHANE, 1,1,2,2-TETRAC+	1U	ug/l
1,2,3-Trichlorobenzene	1U	ug/l
Hexachlorobutadiene	1U	ug/l
Naphthalene	1U	ug/l
2-Chlorotoluene	1U	ug/l
1,2-Dichlorobenzene	1U	ug/l
1,2,4-Trimethylbenzene	1U	ug/l
DBCP	1U	ug/l
1,2,3-Trichloropropane	1U	ug/l
Tert-Butylbenzene	1U	ug/l
Isopropylbenzene (Cume+	1U	ug/l
p-Isopropyltoluene	1U	ug/l
BENZENE, ETHYL-	1U	ug/l
BENZENE, ETHENYL-(STYR+	1U	ug/l
BENZENE, PROPYL-	1U	ug/l
Butylbenzene	1U	ug/l
4-Chlorotoluene	1U	ug/l
1,4-Dichlorobenzene	1U	ug/l
1,2-Dibromoethane (EDB)	1U	ug/l
1,2-Dichloroethane	1U	ug/l
4-Methyl-2-Pentanone	1U	ug/l
1,3,5-Trimethylbenzene	1U	ug/l

VOA - PP Scan (GCMS) *** Continued ***	Water-Total Result	Units
Bromobenzene	1U	ug/l
Toluene	1U	ug/l
Chlorobenzene	1U	ug/l
1,2,4-Trichlorobenzene	1U	ug/l
Dibromochloromethane	1U	ug/l
Tetrachloroethene	0.2J*	ug/l
Sec-Butylbenzene	1U	ug/l
1,3-Dichloropropane	1U	ug/l
Cis-1,2-Dichloroethene	6 *	ug/l
trans-1,2-Dichloroethe+	1U	ug/l
1,3-Dichlorobenzene	1U	ug/l
1,1-Dichloropropene	1U	ug/l
2,2-Dichloropropane	1U	ug/l
2-Hexanone	1U	ug/l
Ethane, 1,1,1,2-Tetrac+	1U	ug/l
Total Xylenes	1U	ug/l
cis-1,3-Dichloropropene	1U	ug/l
trans-1,3-Dichloroprop+	1U	ug/l
p-Bromofluorobenzene	98	% Recov
Surrog: 1-Bromo-2-Fluo+	100	% Recov
d8-Toluene	96	% Recov
d4-1,2-Dichloroethane	90	% Recov

Tent Ident - VOA Sca	Water-Total Result	Units
CHLORINATED UNKNOWN	4.9NJ*	ug/l

5/22/91

(Sample Complete)